

Human Factor in Conversation Between Subordinates and Managers

Ljudski čimbenik u razgovoru između podređenih i menađera

Peter Čekan

Faculty of Aeronautics
Technical University of Košice
Slovakia
e-mail: peter.cekan@tuke.sk

Michal Hovanec

Faculty of Aeronautics
Technical University of Košice
Slovakia
e-mail: michal.hovanec@tuke.sk

Jozef Sabo

Faculty of Aeronautics
Technical University of Košice
Slovakia
e-mail: jozef.sabo@tuke.sk

DOI 10.17818/NM/2016/SI30

UDK 656.7:331.44

Original scientific paper / *Izvorni znanstveni rad*

Paper accepted / *Rukopis primljen*: 4. 5. 2016.

Summary

Communication between a pilot and air traffic controller (ATC) is one of the most important factors in the aviation safety. Communication is the exchange of information based on mutual reliance, information precision and accuracy of on both communicating parties.

KEY WORDS

communication, aviation safety, stress, fatigue

Sažetak

Komunikacija između pilota i kontrolora zračnog prometa je jedan od najvažnijih čimbenika zrakoplovne sigurnosti. Komunikacija je razmjena informacija koje su temeljene na međusobnom povjerenju, preciznosti informacija i točnosti obiju stranaka koje komuniciraju.

KLJUČNE RIJEČI

komunikacija, sigurnost u zrakoplovstvu, stres, zamor

1. INTRODUCTION

Communication belongs to one of the most demanding and crucial skills which can seriously impact aviation safety if it is not done properly. Elimination of errors in communication and accidents caused by human factor are the primary task for aviation management and organizational structures to ensure the safety of flight operation. In the research presented in this article, I have focused on psychological aspects of communication which are rarely described, but for sure, affect the quality of the information exchange and have significant impact on the air traffic safety. The investigated factors are the respect, fear, fatigue and the resulting uncertainty or even skipping of information.

must be an exchange of relevant information, instructions and regulations. Especially in this speaking process most of the fears and concerns the human factor is manifested. In aviation there is important to highlight this fact in the training process of managers, heads of department show to communicate with subordinates properly [2].

We should mention that the fear to communicate with superiors may occur in cases where some respect and power is dominant. Fortunately, our investigation has shown that almost half of respondents, 49%, have never noticed concerns about communication with their supervisors and 48 % have never been afraid to talk to their supervisors. The others admitted they were afraid of what to say and how to express the information that had an impact on the quality of their speech. Comparing the situation with the respondents from the Czech Republic, the Slovak respondents expressed more concern and fear of superiors; the results are shown in the following table. Trust is another factor, which is related to the previous problem of communication with superiors, but here it must be perceived in context of both sides, it means also communication with subordinates. The respondents in our research survey expressed their confidence to managers or subordinates in 23% and 62 % of respondents were not absolutely sure they should trust their superiors. There were 3 % of respondents who expressed mistrust and some 12 % who do not always trust. The results are certainly encouraging, but there is certain distrust. The causes of distrust may be different, and it offers possibilities for further research into these causes of distrust in the future.

2. FACTORS AFFECTING COMMUNICATION

In this paper we pay our attention to the various factors in communication which have an important role in receiving, understanding and transmitting information such as memory, fear, speed, nervousness, and fatigue in dependence of a target person the information is spoken to [1].

2.1. Communication with superiors

The concern about communication with other people especially speaking to superiors is a problem many people suffer from in their jobs and it can be a considerable disadvantage and threat for safety in aviation as well. An individual, because of strong respect and some fear to speak to the superior, makes unintentional mistake or omits unpleasant, but important information. Correctness and accuracy of communication with superiors is very important and crucial because there

Table 1 Concerns about communication with people

	Always		Never		Depending on situation		Never	
Concerns about communication with people	0/CR 2/SR 2/stud.	4%	0/CR 5/SR 6/stud.	12%	1/CR 9/SR 23/stud.	35%	7/CR 19/SR 20/stud.	49%
Fear of communication with superiors	0/CR 1/SR 1/stud.	2%	0/CR 2/SR 9/stud.	12%	0/CR 15/SR 21/stud.	38%	8/CR 17/SR 20/stud.	48%

2.2. Mutual reliance and confidence in information

To trust the information received from a person also requires a responsible approach to convey the correct information to another person. In our research we investigated how the respondents are convinced of the correctness of the information they received. The respondents - 65 % are sure they sent the correct information. Some 32% of respondents sometimes hesitate whether they submitted the correct information and even there are those (3 %), who were never sure whether the information submitted was correct. Safety in aviation requires minimum of uncertainty and hesitation. The ratio of trust and distrust in receiving and sending information is shown in the following graph.

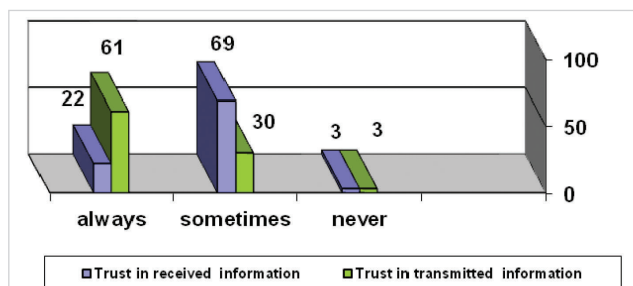


Figure 1 The ratio of trust and distrust to given information

Comparing trust in received and transmitted information among all respondents; we find that the complete lack of trust is a low number of only 3, but 69 respondents are not always convinced about the correctness of received information. Slightly lower number, 61 respondents are always convinced of the correctness of the data they transferred. Supporting safety in aviation requires strengthening responsibility and attitude of workers in aviation, especially pilots and ATC to the correctness of any information. Errors in communication on the one hand give rise to a lack of confidence on the other. The increasing number of errors may deepen the distrust which may cause a wrong decision or omission of a part of the procedure despite the order or regulation.

3. MISSUNDERSTANDING

The effect of stress, nervousness, fatigue, family problems on communication are well known factors. Under the influence of these factors, people make mistakes, speak quickly, and omit important facts, change intonation and timbre of voice. The same applies to the listener who does not focus on all the facts or understands incorrectly or even does not listen at all [3]. For these reasons it is important that pilots and air traffic controllers should be aware of these factors and, in particular, know how to avoid such emergency situations, but also did recognize a problem in humans with whom they communicate [4].

3.1. Personal troubles affecting communication

In our research 11% of respondents admitted to a permanent influence of mood, stress and fatigue and 72 % of respondents acknowledged the occasional impact of those. Only 17% have never recorded the impact of mentioned factors in their oral speech. The results of the research clearly confirm that the human factor in this respect plays a vital role in communication as well as the impact of family problems at work. The respondents - 49 % state that their communication is sometimes affected by family problems. We can say that almost half of the surveyed aviation workers are aware of the issue.

Various activities in the private life or health problems may cause the person to come to work tired, although it can happen only sometimes. The fatigue acts not only on the quality of communication, but also on the work performance. The surveyed respondents -11 % often come to work with a feeling of fatigue and 65 % sometimes, and 24 respondents never had this feeling of tiredness.

In communication, it is important to recognize the nervousness and restless of the other person. The respondents -29 % are always able to recognize that, but 67 % sometimes and 4 % of respondents have never noticed that. The following figure shows a comparison of awareness of the impact of fatigue, stress, family problems, and recognizing them by the other person.

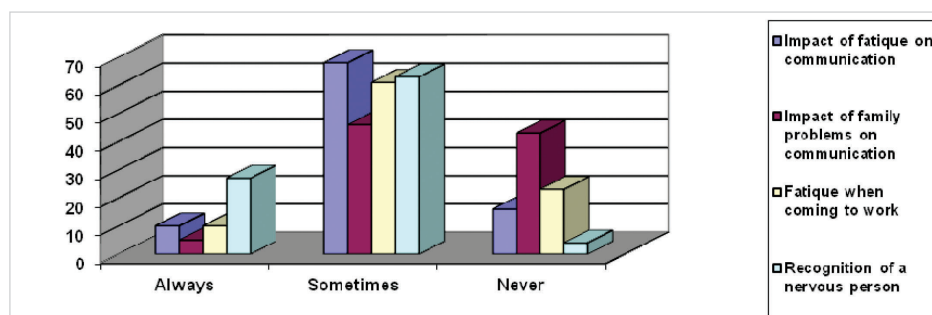


Figure 2 The impact of fatigue, problems, nervousness and their recognition on a person

The above mentioned comparison shows that the majority of pilots and air traffic controllers can sometimes detect a problem with the person speaking. This fact should be taken into account in the training and testing of this group of workers in aviation.

4. CONCLUSION

In the workplace, we must always take communicating between superiors and subordinates into consideration and should eliminate barriers and fear of a such information exchange. Participants who experienced fatigue, stress, nervousness in any forms and on the basis of research realize this. A considerable number of those who marked the answer "never" with regard to the reasons in communication can mean the fact that you do not realize or do not pay enough attention. This part of the research result could be the impetus for the further research in the field of human factors.

REFERENCES

- [1] Čekan P.: Metodika testovania leteckého personálu z pohľadu ľudského faktora v komunikácii v rámci manažmentu zdrojov osádky lietadla, dizertačná práca, TUKE
- [2] Braden Aviman (2010), Communication error between ATC and Pilots Retrived 19th September 2010 from <http://aviationknowledge.wikidot.com/asi:communication-error-between-atc-and-oilot>
- [3] Kozuba, J., Piľa, J., Korba, P.: Bezpečnostné aspekty selekcie pilotov - 2015. In: Aktuálne otázky bezpečnosti práce. - Košice : TU, 2015 S. 1-6. - ISBN 978-80-553-2302-2
- [4] Piľa, J., Adamčík, F., Korba, P., Antoško, M.: Safety Hazard and Risk in Slovak Aviation Regulations - 2014. In: Our Sea, International Journal of Maritime Science and Technology. Vol. 61, no. 1-2 (2014), p. 27-30. - ISSN 1848-6320
- [5] Kwasiborska A., Stelmach A.: Analysis of airport traffic in the context of environmental throughput. Transport problems.2014.Vol.9 ISSUE1 P.129, ISSN 2300-861X